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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/597,623
Filing Date: August 01, 2006
Appellant(s): BAR ET AL.

Anthony P. Curtis
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/25/10 appealing from the Office action mailed 06/10/10.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments contained in the brief is correct. No amendments after final were filed.

(5) Summary of Claimed Subject Matter

The summary of the claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement on the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the appellant's brief is correct.

(8) Evidence Relied Upon

2002/0075941	Souissi et al.	06-2002
2003/0152055	Aragones et al.	08-2003
2004/0184406	Iwamura	09-2004
7406042	Shridhar et al.	07-2008

NPL Document: ETS 300 396-3 TETRA DMO Part 3 March 1998

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 20-33 and 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souissi et al. (US Patent Publication 2002/0075941 herein after referenced as Souissi) in view of TETRA STANDARDS (ETS 300 396-3 herein after referenced as TETRA) and further in view of Aragones et al. (US Patent Publication 2003/0152055 herein after referenced as Aragones).

Regarding claim 20, Souissi discloses:

The applicant claims "A method of radio communication comprising: at a mobile station: maintaining at least a first communication group set comprising an ordered list of two or more user groups for the purpose of scanning for radio frequency activity among at least some of the groups" (Fig. 1 & Paragraphs [0043], [0053], [0084] & [0090] of Souissi, wherein Souissi discloses a slave terminal 29 being a slave member of both piconets wherein the piconets are comprised of cellular wireless devices and maintains at each device a priority table and collision slot table information as well as the frequency hopping sequences of each piconet and wherein the device regularly scans or samples at least a subset of the frequency hopping channels in order to find and synchronize with the existing piconet, therefore maintaining at the mobile station a group set having an ordered list).

The applicant claims "each of the user groups communicating by a direct mode communication on an associated direct mode radio frequency channel for the group, the direct mode radio frequency channels using different radio frequency carriers; and conducting a surveillance procedure that includes periodically sampling each of the direct mode radio frequency channels to determine if there is any radio frequency activity comprising a direct mode communication amongst each group on the direct mode radio frequency channel" (Fig. 1 & Paragraphs [0039], [0053], [0084] & [0090] of Souissi, wherein Souissi discloses the slave terminal 29 being a member of both piconet 19 and piconet 20 wherein the piconets are adhoc (direct mode) networks using short range wireless protocol such as Bluetooth or other protocol with comparable features wherein each slave device in the piconet follows the master's frequency hopping sequence (different radio frequency carriers) and wherein the Bluetooth device regularly scans or samples the frequency hopping channels to find and synchronize with the existing piconet, therefore each of the piconets (user groups) communicating using the Bluetooth protocol (direct mode) regularly scans/samples each of the frequency hopping sequence (different radio frequency channels) to determine if there is activity comprising a direct mode communication on the direct mode radio frequency channel).

Souissi discloses using protocols in the piconets having comparable features and needs as the Bluetooth protocol (Paragraph [0039] of Souissi). However, Souissi fails to explicitly recite "the user groups communicating by a European Telecommunications Standard Institute (ETSI) direct mode communication."

In a related field of endeavor, TETRA discloses:

The applicant claims "the user groups communicating by a European Telecommunications Standard Institute (ETSI) direct mode communication" (TETRA STANDARDS 4.1 (Page 16), wherein TETRA discloses the TETRA DMO (Direct Mode Operation) protocol offering the possibility of direct communication between MS (mobile stations) without the need of an intervening base station).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the invention of Souissi to incorporate the teachings of TETRA for the purpose of improving the system by conforming to a known standard protocol for short range wireless associations.

Souissi in view of TETRA fails to disclose "determining whether to switch to a different direct mode radio frequency channel through selection by a user of the mobile station when radio frequency activity on the different direct mode radio frequency channel is determined independent of the relative priorities of the direct mode communications."

In a related field of endeavor, Aragonés discloses:

The applicant claims "determining whether to switch to a different direct mode radio frequency channel through selection by a user of the mobile station when radio frequency activity on the different direct mode radio frequency channel is determined independent of the relative priorities of the direct mode communications" (Fig. 1 & Paragraph [0041] of Aragonés, wherein Aragonés discloses prompting the user for the selection of which piconets to join, therefore by prompting the user for a manual selection it is determined independent of the relative priorities of the piconets (direct mode communication)).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the invention of Souissi in view of TETRA to incorporate the teachings of Aragonés of having the capability to prompt the user to which piconet to join and choose as giving priority for the purpose of improving the system by making the system more versatile and flexible to the user's needs by providing the user with the capability to switch and select to a different piconet regardless if the selected piconet has a lower priority than the other one and in addition increases the user satisfaction of being able to have manual control of the system and being able to select a desired piconet regardless of the priority.

Regarding claim 21, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method according to claim 20 wherein each of the direct mode radio frequency channels is sampled to detect a presence signal indicating presence of a particular group associated with the direct mode channel on the direct mode channel" (Paragraph [0039] of Souissi & TETRA STANDARDS 8.4.2.2.1 (Page 77)).

Regarding claim 22, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method according to claim 20 wherein samples of at least some consecutive group radio frequency channels whose state is free or unknown are conducted in a single frame" (Fig. 1, TETRA STANDARDS 4.3.2 (Page 18) & 8.4.2.1 (Page 76), wherein TETRA discloses a frame with "OCC" denoting occupation of slot 3, and a channel free definition wherein no activity is detected other than possible

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receipt of presence signals indicating channel is free). The examiner maintains and takes official notice that it is commonly known in the art to use multiplexing for the purpose of sharing an expensive resource as is evident as a reference only in Shridhar et al. (US Patent 7406042 herein after referenced as Shridhar, wherein Shridhar discloses multiple channels within a single frame (Column 5, Lines 54-56 of Shridhar).

Regarding claim 23, Souissi in view of TETRA and further in view of Aragones discloses:

The applicant claims "The method according to claim 20 wherein if there is currently no group activity on any of the surveyed channels, then a first master mobile station initiating a call or service to start on any of the groups determines a physical and logical time division pattern for all surveyed channels" (Paragraphs [0045] & [0042] of Souissi & TETRA STANDARD 4.3.2 (Page 18), wherein TETRA discloses the calling DM-MS may linearize its transmitter then establishes the channel synchronization and its role as master by transmitting synchronization bursts).

Regarding claim 24, Souissi in view of TETRA and further in view of Aragones discloses:

The applicant claims "The method according to claim 23 wherein all mobile stations other than the first master mobile station detecting the first call or service synchronise to the time division pattern, adopting the same frame and slot numbering as the first master mobile station" (Paragraph [0042] of Souissi & TETRA STANDARDS 4.3.2 (Page 18) & 4.3.4 (Page 20), wherein TETRA discloses the process of synchronizing with the master wherein the timing state of the channel, including the frame and slot numbers is determined).

Regarding claim 25, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method according to claim 24 wherein each master mobile station making a direct mode call transmits a presence signal in a specific time slot of the time division pattern to indicate the group to which that direct mode call relates" (Paragraph [0042] of Souissi & TETRA STANDARDS 4.3.4 (Pages 20-21), wherein TETRA discloses a DM-MS transmitting a pre-emption request message at an appropriate position in the frame structure and if successful, the successful pre-emptor now transmits synchronization bursts for what is in effect a new call with a new group and becomes master for the initial transaction of the new call).

Regarding claim 26, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method of direct mode radio communication according to claim 25 wherein the specific time slot in which a particular master mobile station transmits the associated presence signal is related to a position within the ordered list of the group that the particular master mobile station is communicating with" (Paragraphs [0085]-[0086] & [0090] of Souissi & TETRA STANDARDS 4.3.4 (Pages 20-21), wherein Souissi discloses mapping the collisions of the two piconets and using the priority of the corresponding piconets during the collision to give preference to the higher priority piconet and wherein TETRA discloses a DM-MS transmitting a pre-emption request message at an appropriate position in the frame structure and if successful, the successful pre-emptor now transmits synchronization bursts for what is in effect a new call with a new group and becomes master for the initial transaction of the new call).

Regarding claim 27, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method of direct mode radio communication according to claim 26 wherein the specific time slot in which the particular master mobile station transmits is within a TERrestrial Trunked RAdio (TETRA) request bit map associated frame related to the position within the ordered list of the group that the particular master, mobile station is communicating with" (Paragraph [0090] of Souissi & TETRA STANDARDS 9.6.13 & Fig. 1 of 4.3.2, wherein Souissi discloses having priority tables for the devices and piconets and wherein TETRA discloses the request bitmap to be timeslot 3 of frames 1, 4, 7, 9, 10... and is therefore associated with the timeslots for communication).

Regarding claim 28, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method of direct mode radio communication according to claim 26 wherein the particular master mobile station signals all call or service recipients that the TERrestrial Trunked RAdio (TETRA) request bit map associated time slots are not available for random access requests" (Paragraph [0042] of Souissi & TETRA STANDARDS 8.4.7.9 (Page 92), wherein TETRA discloses the master MS dictate which frames may be used for random access messages, therefore the frames not dictated are not available for random access requests).

Regarding claim 29, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method of direct mode radio communication according to claim 26 Wherein any slave or idle mobile station surveys a specific time slot on a relevant channel to determine if there is any radio frequency activity, the specific time slot channel being related to the position within the ordered list of the group that the slave or idle mobile station is currently surveying" (Paragraphs [0053], [0084]-[0086] & [0090] of Souissi & TETRA STANDARDS 8.4.2.2.2, wherein Souissi discloses regularly scanning/sampling the frequency hopping channels and having a priority table for the devices and piconets so that the higher priority piconet is given preference when the piconets coincide on the same timeslot and wherein TETRA discloses any DM-MS in idle mode shall periodically conduct further channel surveillance in order to detect any DSBs present on the DM radio frequency carrier).

Regarding claim 30, Souissi discloses:

The applicant claims "A mobile station comprising: storage means storing at least a first direct mode group set comprising an ordered list of two or more user groups together with their respective associated direct mode radio frequency channels, for the purpose of scanning for alternative direct mode radio frequency activity among at least some of the groups" (Fig. 1 & Paragraphs [0043], [0053], [0084] & [0090] of Souissi, wherein Souissi discloses a slave terminal 29 being a slave member of both piconets wherein the piconets are comprised of cellular wireless devices and maintains at each device a priority table and collision slot table information as well as the frequency hopping sequences of each piconet and wherein the device regularly scans or samples at least a subset of the frequency hopping channels in order to find and synchronize

with the existing piconet, therefore having a storage means for maintaining at the mobile station a group set having an ordered list).

The applicant claims "the direct mode radio frequency channels using different radio frequency carriers; wherein the mobile station is operable, for those groups in the ordered list whose radio frequency channel state is free or unknown, to conduct a channel surveillance procedure wherein each of the direct mode radio frequency channels associated with the groups of the ordered list is sampled periodically to determine if there is any radio frequency activity comprising a direct mode communication" (Fig. 1 & Paragraphs [0039], [0053], [0084] & [0090] of Souissi, wherein Souissi discloses the slave terminal 29 being a member of both piconet 19 and piconet 20 wherein the piconets are adhoc (direct mode) networks using short range wireless protocol such as Bluetooth or other protocol with comparable features wherein each slave device in the piconet follows the master's frequency hopping sequence (different radio frequency carriers) and wherein the Bluetooth device regularly scans or samples the frequency hopping channels to find and synchronize with the existing piconet, therefore each of the piconets (user groups) communicating using the Bluetooth protocol (direct mode) regularly scans/samples each of the frequency hopping sequence (different radio frequency channels) to determine if there is activity comprising a direct mode communication on the direct mode radio frequency channel).

Souissi discloses using protocols in the piconets having comparable features and needs as the Bluetooth protocol (Paragraph [0039] of Souissi). However, Souissi fails to explicitly recite "for those groups in the ordered list whose radio frequency channel

state is free or unknown” and “a European Telecommunications Standard Institute (ETSI) direct mode communication.”

In a related field of endeavor, TETRA discloses:

The applicant claims “for those groups in the ordered list whose radio frequency channel state is free or unknown” (Fig. 1, TETRA STANDARDS 4.3.2 (Page 18) & 8.4.2.1 (Page 76), wherein TETRA discloses a frame with “OCC” denoting occupation of slot 3, and a channel free definition wherein no activity is detected other than possible receipt of presence signals indicating channel is free).

The applicant claims “a European Telecommunications Standard Institute (ETSI) direct mode communication” (TETRA STANDARDS 4.1 (Page 16), wherein TETRA discloses the TETRA DMO (Direct Mode Operation) protocol offering the possibility of direct communication between MS (mobile stations) without the need of an intervening base station).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the invention of Souissi to incorporate the teachings of TETRA for the purpose of improving the system by conforming to a known standard protocol for short range wireless associations.

Souissi in view of TETRA fails to disclose “and to switch to a different direct mode radio frequency channel through selection by a user of the mobile station when radio frequency activity on the different direct mode radio frequency channel is determined independent of the relative priorities of the direct mode communications.”

In a related field of endeavor, Aragonés discloses:

The applicant claims "and to switch to a different direct mode radio frequency channel through selection by a user of the mobile station when radio frequency activity on the different direct mode radio frequency channel is determined independent of the relative priorities of the direct mode communications" (Fig. 1 & Paragraph [0041] of Aragonés, wherein Aragonés discloses prompting the user for the selection of which piconets to join, therefore by prompting the user for a manual selection it is determined independent of the relative priorities of the piconets (direct mode communication)).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the invention of Souissi in view of TETRA to incorporate the teachings of Aragonés of having the capability to prompt the user to which piconet to join and choose as giving priority for the purpose of improving the system by making the system more versatile and flexible to the user's needs by providing the user with the capability to switch and select to a different piconet regardless if the selected piconet has a lower priority than the other one and in addition increases the user satisfaction of being able to have manual control of the system and being able to select a desired piconet regardless of the priority.

Regarding claim 31, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method of direct mode radio communication according to claim 20 wherein the surveillance procedure is performed independent of whether the mobile station is in an idle state or whether the mobile station is participating as a listener in a direct mode communication" (Paragraph [0039] of Souissi & TETRA STANDARDS 8.4.2.2.1 (Page 77)).

Regarding claim 32, Souissi in view of TETRA and further in view of Aragones discloses:

The applicant claims "The method of direct mode radio communication according to claim 20 further comprising permitting the mobile station to join a call from any group for which direct mode communication was detected by the surveillance procedure as a listener or to initiate a call to members of the detected group" (Paragraph [0082] of Souissi & Paragraph [0041] of Aragones).

Regarding claim 33, Souissi in view of TETRA and further in view of Aragones discloses:

The applicant claims "The method according to claim 21 wherein when the mobile station is active in a call or service, the mobile station samples one of the direct mode radio frequency channels to detect the presence signal during each currently unassigned time slot" (Paragraph [0053] of Souissi & TETRA STANDARDS 8.4.2.2.1 (Page 77) & 8.5.7.2.2 (Page 109), wherein TETRA discloses the master monitoring the time slots looking for pre-emption, timing change or changeover requests).

Regarding claim 36, Souissi in view of TETRA and further in view of Aragones discloses:

The applicant claims "The method according to claim 33 wherein the mobile station only listens to direct mode radio frequency channels of groups to which the mobile station is entitled to join" (Paragraphs [0039], [0042], [0053] & [0084] of Souissi, wherein Souissi discloses synchronizing with the master using the hopping sequences provided by the master).

Regarding claim 37, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method according to claim 20 wherein each slave and idle mobile station listens to a different direct mode radio frequency channel during a time slot assigned to that direct mode radio frequency channel for a presence signal indicating activity in a group associated with that direct mode radio frequency channel, the time slots being different for each direct mode radio frequency channel" (Paragraphs [0039], [0042], [0053] & [0084] of Souissi & TETRA STANDARDS 4.3.4 (Pages 20-21), wherein Souissi discloses each piconet having a master defining the frequency hopping sequence to be used by all devices in the piconet and wherein the devices anticipate a collision timeslot wherein the higher priority piconet is made likely to prevail during the collision and wherein TETRA discloses another group wishing to access the DM channel for a priority reason such as an emergency, therefore different time slots for different channels).

Regarding claim 38, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method according to claim 20 wherein a master mobile station, having initiated a call, listens to a different direct mode radio frequency channel during a time slot assigned to that direct mode radio frequency channel for a presence signal indicating activity in a group associated with that direct mode radio frequency channel, the time slots being different for each direct mode radio frequency channel" (Fig.1 & Paragraphs [0039], [0042], [0053], [0055] & [0084] of Souissi & TETRA STANDARDS 4.3.4 (Pages 20-21)).

Regarding claim 39, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method according to claim 20 wherein a master mobile station, having initiated a call, listens to the same direct mode radio frequency channel during different time slots for a presence signal indicating activity in a particular group, each group associated with a unique time slot" (Fig. 1 & Paragraphs [0039], [0042], [0053], [0055] & [0084] of Souissi & TETRA STANDARDS 4.3.4 (Pages 20-21)).

3. Claims 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souissi et al. (US Patent Publication 2002/0075941 herein after referenced as Souissi) in view of TETRA STANDARDS (ETS 300 396-3 herein after referenced as TETRA) in view of Aragonés et al. (US Patent Publication 2003/0152055 herein after referenced as Aragonés) and further in view of Iwamura (US Patent Publication 2004/0184406 herein after referenced as Iwamura).

Regarding claim 34, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims "The method according to claim 33 wherein the time slot in which each presence signal is transmitted is dependent on a position within the ordered list of the groups" (Paragraphs [0085]-[0086] & [0090] of Souissi & TETRA STANDARDS 4.3.4 (Pages 20-21), wherein Souissi discloses mapping the collisions of the two piconets and using the priority of the corresponding piconets during the collision to give preference to the higher priority piconet and wherein TETRA discloses a DM-MS

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transmitting a pre-emption request message at an appropriate position in the frame structure and if successful, the successful pre-emptor now transmits synchronization bursts for what is in effect a new call with a new group and becomes master for the initial transaction of the new call).

Souissi in view of TETRA and further in view of Aragonés fails to explicitly recite “a unique mapping existing between the time slot and the position within the ordered list of groups.”

In a related field of endeavor, Iwamura discloses:

The applicant claims “a unique mapping existing between the time slot and the position within the ordered list of groups” (Paragraph [0020] of Iwamura, wherein Iwamura discloses a larger number of time slots to be granted to higher priority groups, therefore a unique mapping exist between the time slot and the position/priority within the group).

Therefore it would have been obvious to one of ordinary skill in the art to modify the invention of Souissi in view of TETRA and further in view of Aragonés to incorporate the teachings of Iwamura for the purpose of improving system performance by having an adaptive bandwidth management that gives preference to a higher priority connection.

Regarding claim 35, Souissi in view of TETRA and further in view of Aragonés discloses:

The applicant claims “The method according to claim 33” (see claim 33).

Souissi in view of TETRA and further in view of Aragonés fails to disclose “when if the number of groups exceeds the number of currently unassigned time slots, the

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mobile station samples one of the direct mode radio frequency channels to detect the presence signal during a time slot normally reserved for slave or idle but occupied mobile stations.”

In a related field of endeavor, Iwamura discloses:

The applicant claims "when if the number of groups exceeds the number of currently unassigned time slots, the mobile station samples one of the direct mode radio frequency channels to detect the presence signal during a time slot normally reserved for slave or idle but occupied mobile stations" (Paragraph [0128] of Iwamura, wherein Iwamura discloses the master reassigning time slots based on priority to accommodate the new transmission when not enough slots are available).

Therefore it would have been obvious to one of ordinary skill in the art to modify the invention of Souissi in view of TETRA and further in view of Aragones to incorporate the teachings of Iwamura for the purpose of improving system performance by having an adaptive bandwidth management that gives preference to a higher priority connection.

(10) Response to Argument

1. Souissi is directed towards an entirely different problem, reducing message collisions and solution for that problem which is entirely different from the recited method.

Examiners Response:

In response to applicant's argument that Souissi is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Souissi is in the field of the applicant's endeavor in that Souissi discloses a system wherein a slave terminal 29 is a member of multiple piconet groups wherein the members of each piconet group communicate directly via short range wireless communication such as Bluetooth. In addition, Souissi discloses having priority for each piconet group so that in the event of a collision, the higher priority piconet group is made likely to prevail.

2. Souissi fails to disclose "an ordered list of user groups" because the cited paragraphs of Souissi disclose that the mobile station scans each of a set of frequency hopping channels for different piconets. However, neither a piconet nor a channel used by the piconet is a user group (although a user group is associated with a channel). User groups have a specific meaning to one of skill in the art, a meaning that is used by the instant specification. Thus, whether or not particular frequencies used by different piconet are scanned by Souissi, Souissi does not disclose an ordered list of user groups.

Examiner Response:

The examiner respectfully disagrees. The claimed limitation “user groups” is a broad limitation and broadly interpreted means that any group comprising the user is a user group. As can be seen in Fig. 1 of Souissi, slave terminal 29 (user) is a member of piconet group 20 (user group) and piconet group 19 (user group) which is also consistent with the appellants’ user groups which can be seen in Figs. 1-3 of appellants specification. In addition, Souissi discloses a slave terminal 29 (user) being a member of both piconet group 19 (user group) and piconet group 21 (user group) wherein the piconets are comprised of cellular wireless devices and maintains at each device a priority table (ordered list) and collision slot table information as well as the frequency hopping sequences of each piconet wherein in the event of a collision between both piconets (user groups), the higher priority piconet (higher priority user group) is made likely to prevail, therefore since the user of the slave terminal belongs to both the piconet group 19 and piconet group 20 and since the slave terminal maintains a priority table so that in the vent of a collision, the higher priority piconet is made likely to prevail, the slave terminal therefore maintains an ordered list of user groups.

3. The Final Office Action equates adhoc networks as direct mode communication which is not correct. Adhoc refers to a manner in which communications are established (not prearranged, members can join/leave). Direct mode has a specific meaning in the art, again a meaning that is used in the instant specification. Specifically, DMO describes the manner of communications between

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devices (directly between devices as opposed to trunked in which communications are routed through the infrastructure).

Examiner Response:

The examiner respectfully disagrees. Although Adhoc can refer to a manner in which communications are established as being on the fly (not prearranged, members can join/leave) as the appellant indicated, Adhoc can also mean that the network uses point to point communication and does not rely on a preexisting infrastructure as is known in the art. Souissi clearly refers to the latter part in that the piconets communicate via short range wireless association of communicating devices such as Bluetooth (Fig. 1 & Abstract) which clearly shows the terminals communicating directly with each other without the use of a preexisting infrastructure and which coincides with the appellant's description of the meaning of direct mode.

4. Souissi is directed primarily towards Bluetooth protocols, with an indication that other short range protocols with comparable features may be used. Direct mode TETRA is not such a protocol – the protocol means, physical limitations, algorithms and the surveillance procedures are entirely different and may not be modified in a similar manner as Souissi. A mobile station following the TETRA standard only addresses one channel and is consequently ignorant of any other TETRA activity that might be taking place on another RF channel, even if that activity may be of interest to the user of the mobile station. Thus the combination of references, even if able to be combined and individually showing particular parts of the claim (which they do not), further requires

substantial modification of communications in line with the TETRA standard to enable the method of claim 20.

Examiner Response:

The examiner respectfully disagrees. Souissi discloses using protocols in the piconets having comparable features and needs as the Bluetooth protocol (Paragraph [0039] of Souissi). The Direct Mode TETRA is a standard having comparable features and needs as that described by the Souissi reference. For instance, the Souissi reference discloses using short range wireless associations of communicating devices for its piconets via direct wireless communication such as Bluetooth (Fig. 1 & Paragraph [0039] of Souissi). Similarly, TETRA standards disclose the TETRA DMO (Direct Mode Operation) protocol offering the possibility of direct communication between MS (mobile stations) without the need of an intervening base station (TETRA STANDARDS (Page 16)). In addition, Souissi discloses a system having a master and slave relationship as well as using time slots (Fig. 1 & Paragraph [0039] of Souissi). TETRA standards also disclose having a master and slave relationship as well as using time slots (TETRA STANDARDS (Pages 18-20)). Souissi discloses setting priorities and similarly TETRA standards discloses setting priorities (TETRA STANDARDS (Pages 65)). Souissi discloses regularly scanning/sampling the frequency hopping channels and the TETRA STANDARDS discloses any DM-MS in idle mode shall periodically conduct further channel surveillance in order to detect any DSBs present on the DM radio frequency carrier (TETRA STANDARDS (Pages 77)). Therefore in view of the various evidences as to the similarities of the Souissi reference with the TETRA standard provided above,

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it would have been obvious to one of ordinary skill in the art that the TETRA standard is a protocol or arrangement having comparable features and needs and would therefore have been obvious to combine the teachings of the TETRA standard with the invention of Souissi for the purpose of improving the system by conforming to a known and used standard. In addition, the examiner is not modifying the TETRA standard with the teachings of Souissi but instead modifying the invention of Souissi to incorporate the teachings of the TETRA standard, therefore no modification is made on the TETRA standard but is instead made on the invention of Souissi reference to be used with the teachings from the TETRA standards. Even though the standard doesn't talk about having multiple talk groups it doesn't specifically say that it is limited to being implemented to a single talk group or specifically prevents the standard from having or being used in multiple talk groups, it would therefore make the combination obvious to one of ordinary skill in the art and thereby enable the invention of Souissi to be implemented in a TETRA DMO system.

5. Aragones does not disclose "direct mode channels" and the cited paragraph of Aragones only describes an authentication process that prompts the user to select a particular piconet. Aragones does not disclose that the user selection is prompted specifically by activity on another channel. Moreover, as is clear, Aragones is directed to switching between different active channels for call conferencing. Souissi, on the other hand is directed towards avoiding conflict by, e.g. having devices in a lower priority piconet not transmit during predicted collision times. Not only are the problems being solved entirely dissimilar, in addition the solutions are entirely different, as well as

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being conflicting. In particular, there is no explanation why one of skill in the art would combine Souissi, who discloses suspending transmission to avoid conflict with Aragones, who discloses continuing transmission of multiple calls for call conferencing. Further, it is apparent that even if combined, the features of the disparate references would occur at different times and under different conditions.

Examiner Response:

The examiner respectfully disagrees. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In response to applicant's argument that Aragones and Souissi is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Aragones discloses having multiple piconets wherein each device in the piconet communicates directly with each other (direct mode channel) wherein the user is prompted for the selection of which piconet to join. Souissi discloses a slave terminal being a member of different piconets communicating directly (direct mode) in an adhoc network and in the event of a collision, the higher priority piconet is made likely to prevail in a collision as well as disclosing device regularly scans or samples the frequency hopping channels to find

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and synchronize with the existing piconet. Souissi already discloses determining if there is any activity in the different piconets and would only require the modification of adding the teaching of prompting the user for selection of which piconet to select as taught by Aragones. In addition, the examiner has provided the proper motivation of combining the references in that it would have been obvious to one of ordinary skill in the art to modify the invention of Souissi to prompt the user of which piconet the user wants to select in the event that the slave terminal detects a collision occurring thereby making the system more versatile and flexible to the user's needs by providing the user with the capability to switch and select to a different piconet regardless if the selected piconet has a lower priority and in addition increases the user satisfaction of being able to have manual control of the system and being able to select a desired piconet regardless of the priority as was indicated in the previous office action.

6. In the final office action, the motivation to apply Souissi to TETRA communications is conclusory with no evidence that how or why one of skill in the art would or could alter the TETRA standards to achieve the same results as Souissi. Similar reasoning applies to the combination of Souissi with Aragones. There is no motivation for one of skill in the art to combine the various references, there are missing limitation in claim 20 even if able to be combined, and the activities of the references would occur at different times and if it were furthermore desired to combine the elements of the references so as to modify Souissi using certain elements disclosed Aragones, extensive further modification would be necessary to adapt the techniques of Souissi and Aragones to TETRA-based systems.

Examiner Response:

The examiner respectfully disagrees. The examiner has provided the proper motivation as to why one of ordinary skill in the art would combine the prior art reference as evidence on the final office action sent and reiterated herein. As was indicated previously, the combination is made with the invention of Souissi being modified by the teachings of the TETRA standards and Aragones. Souissi discloses the system using protocols in the piconets having comparable features and needs as the Bluetooth protocol (Paragraph [0039] of Souissi). The TETRA standard is one such standard / protocol / arrangement that has comparable features and needs as was indicated in the explanation provided above. Therefore in view of the various evidences as to the similarities of the Souissi reference with the TETRA standard provided above, it would have been obvious to one of ordinary skill in the art that the TETRA standard is a protocol or arrangement having comparable features and needs and would therefore have been obvious to combine the teachings of the TETRA standard with the invention of Souissi for the purpose of improving the system by conforming to a known and used standard. The appellant states there are missing limitations in claim 20 even if the prior art were able to be combined, however the appellant has failed to provide an indication of what such missing limitations are in the current argument, the examiner believes that all limitations in claim 20 were addressed with reference to the prior art as can be seen from the final office action sent and as can be seen within this current office action. Again, the examiner would like to reiterate that the modification is done with regards to

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the invention of Souissi to incorporate teachings from the TETRA standards and the Aragones reference.

7. The final office action continues to insist (and takes official notice) that merely because the TETRA DMO specifications state some requirement, that one of skill in the art would be able to produce a specific embodiment that complies with the standard. This is far from the case. Merely because a standard exists does not automatically confer to one of skill in the art the ability to create a method that complies with the standard. Appellant respectfully requested an affidavit that regarding specifics for each claim limitation as required by MPEP 2144.03. The affidavit must describe the level of one of skill in the art as well as how and why each specific limitation recited in the claim would be obvious to one of skill in the art. The examiner has declined to do so and has otherwise declined to further how to effect the cited limitations.

Examiner Response:

The examiner respectfully disagrees. Souissi discloses the system to use piconets which can be short range wireless associations of communicating devices according to the Bluetooth protocol or another protocol or arrangement having comparable features and needs (Paragraph [0039] of Souissi). In addition, Souissi discloses having a master and slave relationship in the piconet (Paragraph [0020] of Souissi) as well as having different frequencies and time slots (Paragraph [0025] of Souissi). The TETRA DMO standard has comparable features as that of the system of Souissi in that it specifies a master and slave relationship, communicating wirelessly

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without the use of the infrastructure as well as the use of timeslots to name a few.

Therefore, since the TETRA DMO is a comparable standard, it would have been obvious to one of ordinary skill in the art to incorporate the TETRA standard to be used with the invention of Souissi. The examiner respectfully disagrees with the appellant's statement that the examiner has declined to provide an affidavit as required by MPEP 2144.03. The examiner has not declined to any of the appellant's request and would like to clarify the issue. The appellant's request for an affidavit as required by MPEP 2144.03 was made in the appellant's arguments/remarks filed on 02/23/10 which was arguments for a completely different set of art and different combination used than the combination used in the Final Office action filed on 06/10/10. Therefore since the combination of the references used were different than the previous references to which the request and arguments refer, the examiner regarded the appellant's arguments filed on 02/23/10 as being moot in view of the new grounds of rejection provided. In addition, the examiner only took official notice only on claim 22 and has already provided a reference (US Patent 7406042 Shridhar) with respect to the official notice taken in compliance MPEP 2144.03 in making the rejection. The examiner could not find any other request by the appellant for an affidavit as required by MPEP 2144.03 for the current combination of references and grounds of rejection other than the request filed by the appellant on 02/23/10 which as the examiner indicated is for a different ground of rejection and different art and combination used. If the examiner is mistaken, the examiner would like to request the appellant to provide support that a request has been made for the affidavit as required by MPEP 2144.03 for the current ground of rejection and prior art references used.

8. Claim 22 recites that samples of at least some consecutive group radio frequency channels whose state is free or unknown are conducted in a single frame. The office action insists that multiplexing is common to share resources. However the claim does not recite that the method generally uses multiplexing – it recites specific sampling that occurs within a particular time period and neither the TETRA standard nor the cited reference Shrinidhar disclose the specific limitations recited in the claim. Again merely pointing out that multiplexing is a common technique and may be provided in a completely different technological area is not equivalent to one of skill in the art being able to achieve the result of multiplexing in a particular scenario – especially when applicant has already indicated that such a feature is problematic in DMO.

Examiner's Response:

The examiner would like to further clarify the rejection of claim 22. Souissi discloses a system wherein a terminal is a member of different piconet groups. The TETRA standards discloses a frame with "OCC" denoting occupation of slot 3 as well as having a channel free definition wherein no activity is detected other than possible receipt or presence signals indicating the channel is free. The examiner took official notice that it is commonly known to use multiplexing for the purpose of sharing an expensive resource and has provided the Shridhar reference to provide support for the examiner's official notice. Shridhar discloses multiple channels within a single frame. Therefore it would have been obvious to one of ordinary skill in the art for the system of Souissi comprising multiple groups, to have an indication of which channels are free or

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occupied to be multiplexed into a single frame for the purpose of improving the system by sharing resources within the single frame.

9. Claims 23 recites that if there is currently no group activity on any of the surveyed channels, then a first master mobile station initiating a call or service to start on any of the groups determines a physical and logical time division pattern for all surveyed channels. The Office Action points to a section of the TETRA standard that has to do with linearization of the transmitter and clearly has nothing to do with determining the time division pattern for all channels (let alone that this occurs if there is no group activity on any channel).

Examiners Response:

The examiner would like to further clarify the rejection of claim 23. Souissi discloses a system wherein a terminal is a member of different piconet groups that share frequency hopping channels and time slots that may collide. The TETRA standards disclose the DM-MS linearizing the transmitter and establishing the channel synchronization and the role of master by transmitting synchronization bursts to the slave devices. Therefore, since the system of Souissi is a system that shares frequency hopping channels and time slots that may collide, it would have been obvious to one of ordinary skill in the art that for such synchronization to occur, the synchronization burst would need to contain the physical and logical time division pattern for all surveyed channels.

10. Claim 26 recites that each master mobile station making a direct mode call transmits a presence signal in a specific time slot of the time division pattern to indicate the group to which that direct mode call relates. Nor do the cited passages of Souissi disclose the specific presence signal.

Examiner's Response:

The examiner would like to further clarify the rejection of claim 26. Souissi discloses a system wherein a terminal is a member of different piconet groups that share frequency hopping channels and time slots that may collide and mapping the collisions of the two piconets and using the priority of the corresponding piconets during the collision to give preference to the higher priority piconet. The TETRA standards discloses the DM-MS transmitting a pre-emption request message at an appropriate position in the frame structure and if successful, the successful pre-emptor now transmits synchronization bursts for what is in effect a new call with a new group and becomes master for the initial transaction of the new call. Therefore it would have been obvious to one of ordinary skill in the art that the master mobile station making the direct mode call transmits the pre-emption request (presence signal) in the specific position in the frame structure (time slot of the time division pattern) and since the system detects which piconet group has a higher priority, it would have been obvious to one of ordinary skill in the art that the pre-emption request message will also indicate which piconet group it belongs.

11. Claims 27-29 further disclose elements specific to TETRA timeslots that are not provided in the TETRA standard. Nor as it does not disclose TETRA communications does Souissi disclose the specific elements of the timeslots recited.

Examiner's Response:

The examiner would like to further clarify the rejection of claim 27-29. Souissi discloses a system wherein a terminal is a member of different piconet groups that share frequency hopping channels and time slots that may collide and mapping the collisions of the two piconets and using the priority of the corresponding piconets during the collision to give preference to the higher priority piconet as well as disclosing having priority tables for the devices and piconets.

With regards to claim 27, the TETRA standards disclose the request bitmap to be timeslot 3 of frames 1, 4, 7, 8, 10. Therefore it would have been obvious to one of ordinary skill in the art that since the system is sharing resources between different piconet groups that in the event of a collision and both groups transmit using the request bitmap timeslot 3, the higher priority piconet group would receive the request bitmap timeslot 3 which reads on the claimed limitations.

With regards to claim 28, the TETRA standard disclose the master MS dictate which frames may be used for random access messages, therefore by indicating which frames may be used for random access messages it also indicates which frames are not available for random access request. Therefore, it would have been obvious to one of ordinary skill in the art that in the event of the collision and the higher priority piconet group prevails, the master MS of the lower priority group will signal all recipients that the

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time slots are not available for random access request.

With regards to claim 29, the TETRA standards disclose any DM-MS in idle mode shall periodically conduct further channel surveillance in order to detect any DSBs present on the DM radio frequency carrier. Therefore, it would have been obvious to one of ordinary skill in the art that the slave terminal or idle mobile terminal would survey the specific timeslot assigned by the master for communication and in the event of a collision of both piconet groups, the higher priority group would prevail over the lower priority group and receive the timeslot being surveyed by the slave terminal, therefore the specific time slot channel is related to the position within the ordered list of the group.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Michael Mapa/

Examiner, Art Unit 2617

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